

Test Point E2

Date: 95 Aug 21
Tap Location: Aerial

Address of Location: 2581 White Store Rd., Monroe
Trunk Cascade: 26 Line Extender Cascade: 0

Field Test Results

1. NTSC Direct: Received Signal Level: -39.5 dBm
Impairment Rating: 4 Comments: beat
Direct Inband Response: 1.2 dB P-V Delay: 60 ns
2. NTSC Through House-in-a-Box: Level: -43.7 dBm HIAB Loss: 4.2 dB
Impairment Rating: 4 Comments: beat
HIAB Inband Response: 2 dB P-V Delay: 70 ns
3. NTSC Carrier levels (Direct):
Lower Visual: -39.7 dBm Lower Aural: -55.7 dBm Ratio: 16 dB
Test Visual: -39.5 dBm Test Aural: -56.8 dBm Ratio: 17.3 dB
Upper Visual: None dBm Upper Aural: None dBm Ratio: N/A dB
4. NTSC Carrier Level: -6.4 dBm (after amplifier and filter)
Highest Inband Spurious: >-81.0 dBm @ - MHz
CTB Level: -80.2 dBm
Carrier-to-Noise: 45.9 dB (6 MHz bandwidth)
Total System Response 7 dB Peak-to-Valley Tilt across system: 7 dB
5. Direct Connection: HDTV Received Power: -46.8 dBm
HDTV BER: 0 0 0
Visual Impairment Comments: No trans. errors
Aural Impairment Comments: No trans. errors
HDTV Signal (amplified): -26.7 dBm Noise Power: -65.3 dBm S/N₁: 38.6 dB

BER with noise added to reach threshold: 1.81E-06 1.73E-06 2.55E-06
HDTV Signal (amplified): -26.7 dBm Noise Power: -55.2 dBm S/N₂: 28.5 dB

Margin S/N₁ - S/N₂ : 10.1 dB
6. Signal through House-in-a-Box: HDTV Received Power: -51.9 dBm
HDTV BER: 0 0 0
Visual Comments: No trans. errors
Aural Comments: No trans. errors
HDTV Signal (amplified): -29 dBm Noise Power: -67.9 dBm S/N₁: 38.9 dB

BER with noise added to reach threshold: 5.57E-07 1.35E-06 1.12E-06
HDTV Signal (amplified): -29 dBm Noise Power: -60.8 dBm S/N₂: 31.8 dB

Margin S/N₁ - S/N₂ : 7.1 dB

Test Point E3

Date: 95 Aug 21 Address of Location: 1623 Old Peachland Rd, Marchfield
 Tap Location: Fibre /Aerial Tank Cascade: 25 Line Extender Cascade: 1

Field Test Results

1. NTSC Direct: Received Signal Level: -55.4 dBm
 Impairment Rating: 3.5 Comments: noise
 Direct Inband Response: 0.5 dB P-V Delay: 55 ns

2. NTSC Through House-in-a-Box: Level: -59.5 dBm HIAB Loss: 4.1 dB
 Impairment Rating: 3 Comments: noise & beat
 HIAB Inband Response: 2.5 dB P-V Delay: 70 ns

3. NTSC Carrier levels (Direct):
 Lower Visual: -55.6 dBm Lower Aural: -73.6 dBm Ratio: 18 dB
 Test Visual: -55.4 dBm Test Aural: -73.4 dBm Ratio: 18 dB
 Upper Visual: None dBm Upper Aural: None dBm Ratio: N/A dB

4. NTSC Carrier Level: -22.7 dBm (after amplifier and filter)
 Highest Inband Spurious -76.7 dBm @ 305.2 MHz
 CTB Level: -76.4 dBm
 Carrier-to-Noise: 37.5 dB (6 MHz bandwidth)
 Total System Response: 7 dB Peak-to-Valley Tilt across system: -17 dB

5. Direct Connection: HDTV Received Power: -61.7 dBm
 HDTV BER: 0 0 0
 Visual Impairment Comments: No trans. errors
 Aural Impairment Comments: No trans. errors
 HDTV Signal (amplified): -28.4 dBm Noise Power: -59.9 dBm S/N₁: 31.5 dB

 BER with noise added to reach threshold: 8.79E-07 8.01E-07 1.60E-06
 HDTV Signal (amplified): -28.4 dBm Noise Power: -57.9 dBm S/N₂: 29.5 dB

 Margin S/N₁ - S/N₂ : 2 dB

6. Signal through House-in-a-Box: HDTV Received Power: -66.4 dBm
 HDTV BER: 3.50E-02 3.60E-02 3.10E-02
 Visual Comments: Below Threshold
 Aural Comments: Below Threshold
 HDTV Signal (amplified): -33.9 dBm Noise Power: -59.5 dBm S/N₁: 25.6 dB

 BER with noise added to reach threshold: - - -
 HDTV Signal (amplified): -33.9 dBm Noise Power: -59.5 dBm
 S/N₂: 25.6 dB

 Margin S/N₁ - S/N₂ : 0 dB

Test Point E4

Date: 95 Aug 22
Tap Location: Aerial

Address of Location: Friendly Baptist Church Rd, Union City
Trunk Cascade: 29 Line Extender Cascade: 0

Field Test Results

1. NTSC Direct: Received Signal Level: -42.4 dBm
Impairment Rating: 3.5 Comments: noise
Direct Inband Response: 2 dB P-V Delay: n/a ns
2. NTSC Through House-in-a-Box: Level: -46.7 dBm HIAB Loss: 4.3 dB
Impairment Rating: 3 Comments: beat
HIAB Inband Response: n/a dB P-V Delay: n/a ns
3. NTSC Carrier levels (Direct):
Lower Visual: -38.5 dBm Lower Aural: -59.4 dBm Ratio: 20.9 dB
Test Visual: -42.1 dBm Test Aural: -59.3 dBm Ratio: 17.2 dB
Upper Visual: None dBm Upper Aural: None dBm Ratio: N/A dB
4. NTSC Carrier Level: -8.5 dBm (after amplifier and filter)
Highest Inband Spurious: >-70.5 dBm @ - MHz
CTB Level: -67.7 dBm
Carrier-to-Noise: 42.2 dB (6 MHz bandwidth)
Total System Response: 5 dB Peak-to-Valley Tilt across system: 5 dB
5. Direct Connection: HDTV Received Power: -48.2 dBm
HDTV BER: 0 0 0
Visual Impairment Comments: No trans. errors
Aural Impairment Comments: No trans. errors
HDTV Signal (amplified): -15.1 dBm Noise Power: -49.6 dBm S/N₁: 34.5 dB

BER with noise added to reach threshold: 7.26E-07 4.80E-07 6.92E-07
HDTV Signal (amplified): -15.1 dBm Noise Power: -44.2 dBm S/N₂: 29.1 dB

Margin S/N₁ - S/N₂ : 5.4 dB
6. Signal through House-in-a-Box: HDTV Received Power: -52.9 dBm
HDTV BER: 0 0 0
Visual Comments: No trans. errors
Aural Comments: No trans. errors
HDTV Signal (amplified): -19.2 dBm Noise Power: -53.4 dBm S/N₁: 34.2 dB

BER with noise added to reach threshold: 8.79E-07 1.70E-07 3.08E-07
HDTV Signal (amplified): -19.2 dBm Noise Power: -48.9 dBm
S/N₂: 29.7 dB

Margin S/N₁ - S/N₂ : 4.5 dB

Test Point E5

Date: 95 Aug 22
Tap Location: Aerial

Address of Location: 308 Oak Forest Circle, Monroe
Trunk Cascade: 33 Line Extender Cascade: 0

Field Test Results

1. NTSC Direct: Received Signal Level: -46.5 dBm
Impairment Rating: 3 Comments: slight beat
Direct Inband Response: 2 dB P-V Delay: n/a ns
2. NTSC Through House-in-a-Box: Level: -50.2 dBm HIAB Loss: 3.7 dB
Impairment Rating: 3 Comments: slight beat
HIAB Inband Response: n/a dB P-V Delay: n/a ns
3. NTSC Carrier levels (Direct):
Lower Visual: -46.4 dBm Lower Aural: -63.4 dBm Ratio: 17 dB
Test Visual: -46.1 dBm Test Aural: -64.7 dBm Ratio: 18.6 dB
Upper Visual: None dBm Upper Aural: None dBm Ratio: N/A dB
4. NTSC Carrier Level: -14.7 dBm (after amplifier and filter)
Highest Inband Spurious: >-73.9 dBm @ - MHz
CTB Level: >-73.9 dBm
Carrier-to-Noise: 40.8 dB (6 MHz bandwidth)
Total System Response: 4 dB Peak-to-Valley Tilt across system: 12 dB
5. Direct Connection: HDTV Received Power: -54.6 dBm
HDTV BER: 0 0 0
Visual Impairment Comments: No trans. errors
Aural Impairment Comments: No trans. errors
HDTV Signal (amplified): -22.3 dBm Noise Power: -54.9 dBm S/N₁: 32.6 dB

BER with noise added to reach threshold: 1.60E-06 2.07E-06 0
HDTV Signal (amplified): -22.3 dBm Noise Power: -51.8 dBm S/N₂: 29.5 dB

Margin S/N₁ - S/N₂ : 3.1 dB
6. Signal through House-in-a-Box: HDTV Received Power: -60 dBm
HDTV BER: 7.30E-08 7.30E-08 0
Visual Comments: No trans. errors
Aural Comments: No trans. errors
HDTV Signal (amplified): -25.4 dBm Noise Power: -56.9 dBm S/N₁: 31.5 dB

BER with noise added to reach threshold: 2.20E-07 6.79E-07 9.37E-07
HDTV Signal (amplified): -25.4 dBm Noise Power: -56.1 dBm
S/N₂: 30.7 dB

Margin S/N₁ - S/N₂ : 0.8 dB

Test Point E6

Date: 95 Aug 22 Address of Location: 8625 Richardson King Rd, Waxhaw
 Tap Location: Fibre /Aerial Trunk Cascade: 22 Line Extender Cascade: 0

Field Test Results

1. NTSC Direct: Received Signal Level: -51.7 dBm
 Impairment Rating: 3.5 Comments: noise
 Direct Inband Response: 3.5 dB P-V Delay: n/a ns
2. NTSC Through House-in-a-Box: Level: -56 dBm HIAB Loss: 4.3 dB
 Impairment Rating: 3 Comments: noise & Beat
 HIAB Inband Response: n/a dB P-V Delay: n/a ns
3. NTSC Carrier levels (Direct):
 Lower Visual: -45.8 dBm Lower Aural: -65.3 dBm Ratio: 19.5 dB
 Test Visual: -51.8 dBm Test Aural: -70.6 dBm Ratio: 18.8 dB
 Upper Visual: None dBm Upper Aural: None dBm Ratio: N/A dB
4. NTSC Carrier Level: -19.2 dBm (after amplifier and filter)
 Highest Inband Spurious: >-76.0 dBm @ - MHz
 CTB Level: >-76.0 dBm
 Carrier-to-Noise: 39.6 dB (6 MHz bandwidth)
 Total System Response: 5 dB Peak-to-Valley Tilt across system: 5 dB
5. Direct Connection: HDTV Received Power: -54.7 dBm
 HDTV BER: 0 0 0
 Visual Impairment Comments: No trans. errors
 Aural Impairment Comments: No trans. errors
 HDTV Signal (amplified): -25.7 dBm Noise Power: -56.3 dBm S/N₁: 30.6 dB

 BER with noise added to reach threshold: 2.78E-06 1.92E-06 2.97E-06
 HDTV Signal (amplified): -25.7 dBm Noise Power: -54.5 dBm S/N₂: 28.8 dB

 Margin S/N₁ - S/N₂ : 1.8 dB
6. Signal through House-in-a-Box: HDTV Received Power: -60.1 dBm
 HDTV BER: 0 0 0
 Visual Comments: No trans. errors
 Aural Comments: No trans. errors
 HDTV Signal (amplified): -26.4 dBm Noise Power: -58 dBm S/N₁: 31.6 dB

 BER with noise added to reach threshold: 3.11E-07 0 6.89E-07
 HDTV Signal (amplified): -26.4 dBm Noise Power: -56.3 dBm
 S/N₂: 29.9 dB

 Margin S/N₁ - S/N₂ : 1.7 dB

APPENDIX 6

Time Warner Cable of Gastonia

General System Information

Total Subscribers: 14,500	Miles of Plant: 387	Percent Underground: 20
System Bandwidth: 50 - 330 MHz	Frequency Plan: STD	Highest Frequency Used: 342 MHz
Test Channel: 44 (342 - 348 MHz)	Lower Channel: clear	Upper Channel: not used
Trunk Amp Mfr.: Magnavox	Operating Carrier Levels: --	
Line Extender Mfr.: Magnavox	Operating Carrier Levels: --	
Trunk Cable: .750"	Cable Manufacturer: Comm/Scope	Age: 1 - 15 years
Distribution Cable: .500"	Cable Manufacturer: Comm/Scope	Age: 1 - 15 years
Cable Tap & Passives Mfr.: assorted		
Channel 53 HDTV Rx Level: -48 dBm (~33 dB of Margin)		
Rx Site: 30.5 miles from transmitter site		
Tests Performed by: G. Hovland - CableLabs, W. O'Grady - Philips, and Rob Densler - Zenith		
Director: Brian James - CableLabs		

Test Point F1

Date: 95 Aug 22

Address of Location: Headend, Gastonia

Tap Location: HE Test Point Trunk Cascade: 1

Line Extender Cascade: 0

Field Test Results

1. NTSC Direct: Received Signal Level: -29.7 dBm
 Impairment Rating: 4.5 Comments: -
 Direct Inband Response: 0.4 dB P-V Delay: 15 ns

2. NTSC Through House-in-a-Box: Level: -35.6 dBm HIAB Loss: 5.9 dB
 Impairment Rating: 4 Comments: slight beat
 HIAB Inband Response: 1 2 dB P-V Delay: 36 ns

3. NTSC Carrier levels (Direct):
 Lower Visual: -28.7 dBm Lower Aural: -44.9 dBm Ratio: 16.2 dB
 Test Visual: -29.7 dBm Test Aural: -44.7 dBm Ratio: 15 dB
 Upper Visual: None dBm Upper Aural: None dBm Ratio: N/A dB

4. NTSC Carrier Level: 3.3 dBm (after amplifier and filter)
 Highest Inband Spurious: >-70.8 dBm @ - MHz
 CTB Level: >-70.8 dBm
 Carrier-to-Noise: 50.7 dB (6 MHz bandwidth)
 Total System Response: 2 dB Peak-to-Valley Tilt across system: 5 dB

5. Direct Connection: HDTV Received Power: -35.8 dBm
 HDTV BER: 0 0 0
 Visual Impairment Comments: No trans. errors
 Aural Impairment Comments: No trans. errors
 HDTV Signal (amplified): -32.5 dBm Noise Power: -74.5 dBm S/N₁: 42 dB

 BER with noise added to reach threshold: 1.07E-06 1.29E-06 1.52E-06
 HDTV Signal (amplified): -32.5 dBm Noise Power: -61.3 dBm S/N₂: 28.8 dB

 Margin S/N₁ - S/N₂ : 13.2 dB

6. Signal through House-in-a-Box: HDTV Received Power: -41.6 dBm
 HDTV BER: 0 0 0
 Visual Comments: No Video Avail
 Aural Comments: No Audio Avail.
 HDTV Signal (amplified): -27.4 dBm Noise Power: -65.9 dBm S/N₁: 38.5 dB

 BER with noise added to reach threshold: 0 0 0
 HDTV Signal (amplified): -27.4 dBm Noise Power: -57.6 dBm
 S/N₂: 30.2 dB

 Margin S/N₁ - S/N₂ : 8.3 dB

Test Point F2

Date: 95 Aug 23 Address of Location: Autumn Wood & Peppercorn, Gastonia
 Tap Location: Buried Trunk Cascade: 38 Line Extender Cascade: 0

Field Test Results

1. NTSC Direct: Received Signal Level: -57.8 dBm
 Impairment Rating: 3 Comments: beat & noise
 Direct Inband Response: 3.5 dB P-V Delay: 75 ns

2. NTSC Through House-in-a-Box: Level: -64 dBm HIAB Loss: 6.2 dB
 Impairment Rating: 2.5 Comments: beat & noise
 HIAB Inband Response: 2.5 dB P-V Delay: 210 ns

3. NTSC Carrier levels (Direct):
 Lower Visual: -56.8 dBm Lower Aural: -74.1 dBm Ratio: 17.3 dB
 Test Visual: -58.1 dBm Test Aural: -76.2 dBm Ratio: 18.1 dB
 Upper Visual: None dBm Upper Aural: None dBm Ratio: N/A dB

4. NTSC Carrier Level: -25 dBm (after amplifier and filter)
 Highest Inband Spurious: -70.12 dBm @ 344.4 MHz
 CTB Level: >-71 dBm
 Carrier-to-Noise: 34.8 dB (6 MHz bandwidth)
 Total System Response: 7 dB Peak-to-Valley Tilt across system: 23 dB

5. Direct Connection: HDTV Received Power: -64.9 dBm
 HDTV BER: 1.60E-02 1.26E-02 1.22E-02
 Visual Impairment Comments: Below threshold
 Aural Impairment Comments: Below Threshold
 HDTV Signal (amplified): -32.4 dBm Noise Power: -59.5 dBm S/N₁: 27.1 dB

 BER with noise added to reach threshold: - - -
 HDTV Signal (amplified): -32.4 dBm Noise Power: -59.5 dBm S/N₂: 27.1 dB

 Margin S/N₁ - S/N₂ : 0 dB

6. Signal through House-in-a-Box: HDTV Received Power: -70.5 dBm
 HDTV BER:
 Visual Comments: Below Threshold
 Aural Comments: Below Threshold
 HDTV Signal (amplified): -38 dBm Noise Power: -55.8 dBm S/N₁: 17.8 dB

 BER with noise added to reach threshold: - - -
 HDTV Signal (amplified): -38 dBm Noise Power: -55.8 dBm S/N₂: 17.8 dB

 Margin S/N₁ - S/N₂ : 0 dB

Test Point F3

Date: 95 Aug 23
Tap Location: Buried

Address of Location: 3100 Planters Ridge, Gastonia
Trunk Cascade: 43 Line Extender Cascade: 0

Field Test Results

1. NTSC Direct: Received Signal Level: -55.9 dBm
Impairment Rating: 3.5 Comments: noise
Direct Inband Response: 4.5 dB P-V Delay: 72 ns
2. NTSC Through House-in-a-Box: Level: -62 dBm HIAB Loss: 6.1 dB
Impairment Rating: 2 Comments: beats
HIAB Inband Response: 3 dB P-V Delay: 85 ns
3. NTSC Carrier levels (Direct):
Lower Visual: -53.9 dBm Lower Aural: -71.8 dBm Ratio: 17.9 dB
Test Visual: -55.8 dBm Test Aural: -75.3 dBm Ratio: 19.5 dB
Upper Visual: None dBm Upper Aural: None dBm Ratio: N/A dB
4. NTSC Carrier Level: -23.9 dBm (after amplifier and filter)
Highest Inband Spurious: -72 dBm @ 344.5 MHz
CTB Level: >-76.2 dBm
Carrier-to-Noise: 35.2 dB (6 MHz bandwidth)
Total System Response: 6 dB Peak-to-Valley Tilt across system: 20 dB
5. Direct Connection: HDTV Received Power: -64.5 dBm
HDTV BER: 1.63E-02 1.55E-02 1.44E-02
Visual Impairment Comments: Below threshold
Aural Impairment Comments: Below Threshold
HDTV Signal (amplified): -31.8 dBm Noise Power: -59.4 dBm S/N₁: 27.6 dB

BER with noise added to reach threshold: - - -
HDTV Signal (amplified): -31.8 dBm Noise Power: -59.4 dBm S/N₂: 27.6 dB

Margin S/N₁ - S/N₂ : 0 dB
6. Signal through House-in-a-Box: HDTV Received Power: -70.7 dBm
HDTV BER:
Visual Comments: Below Threshold
Aural Comments: Below Threshold
HDTV Signal (amplified): -38.1 dBm Noise Power: -55.4 dBm S/N₁: 17.3 dB

BER with noise added to reach threshold: - - -
HDTV Signal (amplified): -38.1 dBm Noise Power: -55.4 dBm
S/N₂: 17.3 dB

Margin S/N₁ - S/N₂ : 0 dB

Test Point F4

Date: 95 Aug 23
Tap Location: Buried

Address of Location: 1601 Plantation Trail, Gastonia
Trunk Cascade: 31 Line Extender Cascade: 0

Field Test Results

1. NTSC Direct: Received Signal Level: -54.4 dBm
Impairment Rating: 3 Comments: beat
Direct Inband Response: 4.5 dB P-V Delay: 165 ns

2. NTSC Through House-in-a-Box: Level: -61 dBm HIAB Loss: 6.6 dB
Impairment Rating: 2.5 Comments: beat & Noise
HIAB Inband Response: 3.5 dB P-V Delay: 180 ns

3. NTSC Carrier levels (Direct):
Lower Visual: -52.2 dBm Lower Aural: -70.3 dBm Ratio: 18.1 dB
Test Visual: -54.2 dBm Test Aural: -74.1 dBm Ratio: 19.9 dB
Upper Visual: None dBm Upper Aural: None dBm Ratio: N/A dB

4. NTSC Carrier Level: -22 dBm (after amplifier and filter)
Highest Inband Spurious: -71.4 dBm @ 344.5 MHz
CTB Level: -75.4 dBm
Carrier-to-Noise: 37.1 dB (6 MHz bandwidth)
Total System Response: 5 dB Peak-to-Valley Tilt across system: 10 dB

5. Direct Connection: HDTV Received Power: -62 dBm
HDTV BER: 3.80E-05 3.44E-05 3.71E-05
Visual Impairment Comments: trans. errors
Aural Impairment Comments: trans. errors
HDTV Signal (amplified): -29.6 dBm Noise Power: -59 dBm S/N₁: 29.4 dB

BER with noise added to reach threshold: - - -
HDTV Signal (amplified): -29.6 dBm Noise Power: -59 dBm S/N₂: 29.4 dB

Margin S/N₁ - S/N₂ : 0 dB

6. Signal through House-in-a-Box: HDTV Received Power: -68.5 dBm
HDTV BER: 4.72E-01 4.66E-01 4.81E-01
Visual Comments: Below Threshold
Aural Comments: Below Threshold
HDTV Signal (amplified): -35.7 dBm Noise Power: -59.5 dBm S/N₁: 23.8 dB

BER with noise added to reach threshold: - - -
HDTV Signal (amplified): -35.7 dBm Noise Power: -59.5 dBm
S/N₂: 23.8 dB

Margin S/N₁ - S/N₂ : 0 dB

Test Point F5

Date: 95 Aug 23
Tap Location: Aerial

Address of Location: 2745 Gail Ave, Gastonia
Trunk Cascade: 29 Line Extender Cascade: 0

Field Test Results

1. NTSC Direct: Received Signal Level: -51 dBm
Impairment Rating: 2.5 Comments: beat
Direct Inband Response: 4 dB P-V Delay: 67 ns
2. NTSC Through House-in-a-Box: Level: -58 dBm HIAB Loss: 7 dB
Impairment Rating: 2.5 Comments: beat
HIAB Inband Response: 3 dB P-V Delay: 90 ns
3. NTSC Carrier levels (Direct):
Lower Visual: -50 dBm Lower Aural: -66.6 dBm Ratio: 16.6 dB
Test Visual: -51 dBm Test Aural: -69.5 dBm Ratio: 18.5 dB
Upper Visual: None dBm Upper Aural: None dBm Ratio: N/A dB
4. NTSC Carrier Level: -18.4 dBm (after amplifier and filter)
Highest Inband Spurious: -68.3 dBm @ 344.5 MHz
CTB Level: -73.9 dBm
Carrier-to-Noise: 39.3 dB (6 MHz bandwidth)
Total System Response: 10 dB Peak-to-Valley Tilt across system: 20 dB
5. Direct Connection: HDTV Received Power: -58.7 dBm
HDTV BER: 0 0 0
Visual Impairment Comments: No trans. errors
Aural Impairment Comments: No trans. errors
HDTV Signal (amplified): -25.7 dBm Noise Power: -57.7 dBm S/N₁: 32 dB

BER with noise added to reach threshold: 5.50E-07 1.51E-06 1.29E-06
HDTV Signal (amplified): -25.7 dBm Noise Power: -55.3 dBm S/N₂: 29.6 dB

Margin S/N₁ - S/N₂ : 2.4 dB
6. Signal through House-in-a-Box: HDTV Received Power: -64.8 dBm
HDTV BER: 4.90E-01 4.87E-01 4.86E-01
Visual Comments: Below Threshold
Aural Comments: Below Threshold
HDTV Signal (amplified): -31.3 dBm Noise Power: -55.2 dBm S/N₁: 23.9 dB

BER with noise added to reach threshold: - - -
HDTV Signal (amplified): -31.3 dBm Noise Power: -55.2 dBm
S/N₂: 23.9 dB

Margin S/N₁ - S/N₂ : 0 dB

Test Point F6

Date: 95 Aug 23
Bessmer City
Tap Location: Aerial

Address of Location: Kings Mountain Rd & Drive-In Theater,
Trunk Cascade: 22 Line Extender Cascade: 0

Field Test Results

1. NTSC Direct: Received Signal Level: -47.3 dBm
Impairment Rating: 3.5 Comments: noise
Direct Inband Response: 2.25 dB P-V Delay: 63 ns
2. NTSC Through House-in-a-Box: Level: -54 dBm HIAB Loss: 6.7 dB
Impairment Rating: 3 Comments: noise & Beat
HIAB Inband Response: 1.5 dB P-V Delay: 70 ns
3. NTSC Carrier levels (Direct):
Lower Visual: -44.9 dBm Lower Aural: -62.5 dBm Ratio: 17.6 dB
Test Visual: -47.3 dBm Test Aural: -63.5 dBm Ratio: 16.2 dB
Upper Visual: None dBm Upper Aural: None dBm Ratio: N/A dB
4. NTSC Carrier Level: -14.4 dBm (after amplifier and filter)
Highest Inband Spurious: -70.1 dBm @ 344.5 MHz
CTB Level: -70 dBm
Carrier-to-Noise: 37.5 dB (6 MHz bandwidth)
Total System Response: 5 dB Peak-to-Valley Tilt across system: 10 dB
5. Direct Connection: HDTV Received Power: -53.7 dBm
HDTV BER: 0 0 0
Visual Impairment Comments: No trans. errors
Aural Impairment Comments: No trans. errors
HDTV Signal (amplified): -23.3 dBm Noise Power: -53.8 dBm S/N₁: 30.5 dB

BER with noise added to reach threshold: 1.18E-06 9.77E-07 8.76E-07
HDTV Signal (amplified): -23.3 dBm Noise Power: -52.3 dBm S/N₂: 29 dB

Margin S/N₁ - S/N₂ : 1.5 dB
6. Signal through House-in-a-Box: HDTV Received Power: -60.4 dBm
HDTV BER: 1.83E-02 1.67E-02 1.67E-02
Visual Comments: trans. errors
Aural Comments: trans. errors
HDTV Signal (amplified): -28.9 dBm Noise Power: -55.3 dBm S/N₁: 26.4 dB

BER with noise added to reach threshold: - - -
HDTV Signal (amplified): -28.9 dBm Noise Power: -55.3 dBm
S/N₂: 26.4 dB

Margin S/N₁ - S/N₂ : 0 dB

APPENDIX 7**Time Warner Cable of Shelby****General System Information**

Total Subscribers: 16,400	Miles of Plant: 720	Percent Underground: 20
System Bandwidth: 50 - 350/450 MHz	Frequency Plan: IRC	Highest Freq. Used: 350 MHz
Test Channel: 10 (192 - 198 MHz)	Lower Channel: clear	Upper Channel: clear
Trunk Amp Mfr.: Jerrold	Operating Carrier Levels: 42 flat dBmV.	
Line Extender Mfr.: Jerrold	Operating Carrier Levels: 42/48 dBmV.	
Trunk Cable: .750"	Cable Mfr.: Trilogy	Age: 7 - 8 Years
Distribution Cable: .500"	Cable Mfr.: Trilogy/Comm/Scope	Age: 7 - 8 Years
Cable Tap & Passives Mfr.: Jerrold		
Channel 53 HDTV Rx Level: -63 dBm (~20 dB of Margin)		
Rx Site: 49.0 miles from transmitter site		
Tests Performed by: G. Hovland - CableLabs, W. O'Grady - Philips, and Rob Densler - Zenith		
Director: Brian James - CableLabs		

Test Point G1

Date: 95 Aug 24 Address of Location: Headend, Shelby
Tap Location: HE Test Point Trunk Cascade: 0 Line Extender Cascade: 0

Field Test Results

1. NTSC Direct: Received Signal Level: -45.8 dBm
 Impairment Rating: 4.5 Comments: -
 Direct Inband Response: 0.1 dB P-V Delay: 30 ns
2. NTSC Through House-in-a-Box: Level: -49.2 dBm HIAB Loss: 3.4 dB
 Impairment Rating: 4 Comments: beat low Freq.
 HIAB Inband Response: 0.8 dB P-V Delay: 80 ns
3. NTSC Carrier levels (Direct):
 Lower Visual: -43.9 dBm Lower Aural: -60.7 dBm Ratio: 16.8 dB
 Test Visual: -45.8 dBm Test Aural: -60.4 dBm Ratio: 14.6 dB
 Upper Visual: -43.5 dBm Upper Aural: -59.4 dBm Ratio: 15.9 dB
4. NTSC Carrier Level: -11.6 dBm (after amplifier and filter)
 Highest Inband Spurious: -75.3 dBm @ 194.83 MHz
 CTB Level: >-80.9 dBm
 Carrier-to-Noise: 45.4 dB (6 MHz bandwidth)
 Total System Response: 1 dB Peak-to-Valley Tilt across system: 2.5 dB
5. Direct Connection: HDTV Received Power: -51.8 dBm
 HDTV BER: 0 0 0
 Visual Impairment Comments: No trans. errors
 Aural Impairment Comments: No trans. errors
 HDTV Signal (amplified): -25.5 dBm Noise Power: -66.5 dBm S/N₁: 41 dB

 BER with noise added to reach threshold: 8.58E-07 8.01E-07 8.40E-07
 HDTV Signal (amplified): -25.5 dBm Noise Power: -54.1 dBm S/N₂: 28.6 dB

 Margin S/N₁ - S/N₂ : 12.4 dB
6. Signal through House-in-a-Box: HDTV Received Power: -55.2 dBm
 HDTV BER: 0 0 0
 Visual Comments: No trans. errors
 Aural Comments: No trans. errors
 HDTV Signal (amplified): -28.7 dBm Noise Power: -64.3 dBm S/N₁: 35.6 dB

 BER with noise added to reach threshold: 1.98E-06 2.49E-06 1.71E-06
 HDTV Signal (amplified): -28.7 dBm Noise Power: -57.3 dBm
 S/N₂: 28.6 dB

 Margin S/N₁ - S/N₂ : 7 dB

Test Point G2

Date: 95 Aug 24
Tap Location: Buried

Address of Location: Corner Jones rd & Wingate Acres, Latimore
Trunk Cascade: 25 Line Extender Cascade: 2

Field Test Results

1. NTSC Direct: Received Signal Level: -42 dBm
Impairment Rating: 3.5 Comments: noise
Direct Inband Response: 0.5 dB P-V Delay: 90 ns
2. NTSC Through House-in-a-Box: Level: -45.7 dBm HIAB Loss: 3.7 dB
Impairment Rating: 3 Comments: beat & noise
HIAB Inband Response: 0.8 dB P-V Delay: 100 ns
3. NTSC Carrier levels (Direct):
Lower Visual: -40.7 dBm Lower Aural: -57.6 dBm Ratio: 16.9 dB
Test Visual: -42.4 dBm Test Aural: -57 dBm Ratio: 14.6 dB
Upper Visual: -40.3 dBm Upper Aural: -56 dBm Ratio: 15.7 dB
4. NTSC Carrier Level: -15.9 dBm (after amplifier and filter)
Highest Inband Spurious: >-72.1 dBm @ - MHz
CTB Level: -70.1 dBm
Carrier-to-Noise: 37 dB (6 MHz bandwidth)
Total System Response: 5 dB Peak-to-Valley Tilt across system: 5 dB
5. Direct Connection: HDTV Received Power: -48.5 dBm
HDTV BER: 0 0 0
Visual Impairment Comments: No trans. errors
Aural Impairment Comments: No trans. errors
HDTV Signal (amplified): -25.1 dBm Noise Power: -60.3 dBm S/N₁: 35.2 dB

BER with noise added to reach threshold: 8.74E-07 9.36E-07 2.40E-07
HDTV Signal (amplified): -25.1 dBm Noise Power: -54.7 dBm S/N₂: 29.6 dB

Margin S/N₁ - S/N₂ : 5.6 dB
6. Signal through House-in-a-Box: HDTV Received Power: -51.7 dBm
HDTV BER: 0 0 0
Visual Comments: No trans. errors
Aural Comments: No trans. errors
HDTV Signal (amplified): -28.6 dBm Noise Power: -61.9 dBm S/N₁: 33.3 dB

BER with noise added to reach threshold: 9.57E-07 4.61E-07 1.28E-06
HDTV Signal (amplified): -28.6 dBm Noise Power: -56.9 dBm
S/N₂: 28.3 dB

Margin S/N₁ - S/N₂ : 5 dB

Test Point G3

Date: 95 Aug 24
Tap Location: Buried

Address of Location: 5330 7 pines Road, Casar
Trunk Cascade: 47 Line Extender Cascade: 1

Field Test Results

1. NTSC Direct: Received Signal Level: -28 dBm
Impairment Rating: 3.5 Comments: noise
Direct Inband Response: 1 dB P-V Delay: 160 ns

2. NTSC Through House-in-a-Box: Level: -30.9 dBm HIAB Loss: 2.9 dB
Impairment Rating: 3.5 Comments: noise
HIAB Inband Response: 1 dB P-V Delay: 140 ns

3. NTSC Carrier levels (Direct):
Lower Visual: -26.5 dBm Lower Aural: -42.4 dBm Ratio: 15.9 dB
Test Visual: -28 dBm Test Aural: -41.9 dBm Ratio: 13.9 dB
Upper Visual: -25.4 dBm Upper Aural: -40.7 dBm Ratio: 15.3 dB

4. NTSC Carrier Level: -4 dBm (after amplifier and filter)
Highest Inband Spurious: -61.4 dBm @ 192.4 MHz
CTB Level: -62.2 dBm
Carrier-to-Noise: 39.1 dB (6 MHz bandwidth)
Total System Response: 7 dB Peak-to-Valley Tilt across system: 7 dB

5. Direct Connection: HDTV Received Power: -33.9 dBm
HDTV BER: 0 0 0
Visual Impairment Comments: No trans. errors
Aural Impairment Comments: No trans. errors
HDTV Signal (amplified): -24.8 dBm Noise Power: -58 dBm S/N₁: 33.2 dB

BER with noise added to reach threshold: 2.18E-06 1.48E-06 1.22E-06
HDTV Signal (amplified): -24.8 dBm Noise Power: -53.5 dBm S/N₂: 28.7 dB

Margin S/N₁ - S/N₂ : 4.5 dB

6. Signal through House-in-a-Box: HDTV Received Power: -37 dBm
HDTV BER: 0 0 0
Visual Comments: No trans. errors
Aural Comments: No trans. errors
HDTV Signal (amplified): -27.9 dBm Noise Power: -60.2 dBm S/N₁: 32.3 dB

BER with noise added to reach threshold: 1.51E-06 1.03E-06 1.06E-06
HDTV Signal (amplified): -27.9 dBm Noise Power: -56.3 dBm
S/N₂: 28.4 dB

Margin S/N₁ - S/N₂ : 3.9 dB

Test Point G4

Date: 95 Aug 25
Tap Location: Buried

Address of Location: 109 Leanna Ct., Boiling Springs
Trunk Cascade: 28 Line Extender Cascade: 1

Field Test Results

1. NTSC Direct: Received Signal Level: -34.7 dBm
Impairment Rating: 4 Comments: slight noise
Direct Inband Response: 0.5 dB P-V Delay: 180 ns
2. NTSC Through House-in-a-Box: Level: -37.9 dBm HIAB Loss: 3.2 dB
Impairment Rating: 4 Comments: slight noise
HIAB Inband Response: 1 dB P-V Delay: 170 ns
3. NTSC Carrier levels (Direct):
Lower Visual: -32.7 dBm Lower Aural: -50 dBm Ratio: 17.3 dB
Test Visual: -34.8 dBm Test Aural: -49.7 dBm Ratio: 14.9 dB
Upper Visual: -33.1 dBm Upper Aural: -49.5 dBm Ratio: 16.4 dB
4. NTSC Carrier Level: -25.4 dBm (after amplifier and filter)
Highest Inband Spurious: >-84.9 dBm @ - MHz
CTB Level: >-84.9 dBm
Carrier-to-Noise: 41.1 dB (6 MHz bandwidth)
Total System Response: 2 dB Peak-to-Valley Tilt across system: 2 dB
5. Direct Connection: HDTV Received Power: -40.5 dBm
HDTV BER: 0 0 0
Visual Impairment Comments: No trans. errors
Aural Impairment Comments: No trans. errors
HDTV Signal (amplified): -24.4 dBm Noise Power: -59.6 dBm S/N₁: 35.2 dB

BER with noise added to reach threshold: 8.42E-07 1.07E-06 1.54E-06
HDTV Signal (amplified): -24.4 dBm Noise Power: -53 dBm S/N₂: 28.6 dB

Margin S/N₁ - S/N₂ : 6.6 dB
6. Signal through House-in-a-Box: HDTV Received Power: -43.8 dBm
HDTV BER: 0 0 0
Visual Comments: No trans. errors
Aural Comments: No trans. errors
HDTV Signal (amplified): -27.5 dBm Noise Power: -62.2 dBm S/N₁: 34.7 dB

BER with noise added to reach threshold: 1.08E-06 1.36E-06 1.35E-06
HDTV Signal (amplified): -27.5 dBm Noise Power: -56.1 dBm
S/N₂: 28.6 dB

Margin S/N₁ - S/N₂ : 6.1 dB

Test Point G5

Date: 95 Aug 25

Address of Location: 102 Brookwood Dr., Grover

Tap Location: Buried

Trunk Cascade: 31

Line Extender Cascade: 0

Field Test Results

1. NTSC Direct: Received Signal Level: -41.3 dBm
Impairment Rating: 3.5 Comments: noise
Direct Inband Response: 0.7 dB P-V Delay: 120 ns
2. NTSC Through House-in-a-Box: Level: -44.5 dBm HIAB Loss: 3.2 dB
Impairment Rating: 3.5 Comments: noise & beat
HIAB Inband Response: 0.9 dB P-V Delay: 170 ns
3. NTSC Carrier levels (Direct):
Lower Visual: -39.5 dBm Lower Aural: -56.4 dBm Ratio: 16.9 dB
Test Visual: -41.4 dBm Test Aural: -56.3 dBm Ratio: 14.9 dB
Upper Visual: -39.7 dBm Upper Aural: -55.8 dBm Ratio: 16.1 dB
4. NTSC Carrier Level: -17.2 dBm (after amplifier and filter)
Highest Inband Spurious: >-75.7 dBm @ - MHz
CTB Level: >-75.7 dBm
Carrier-to-Noise: 40.4 dB (6 MHz bandwidth)
Total System Response: 3 dB Peak-to-Valley Tilt across system: 5 dB
5. Direct Connection: HDTV Received Power: -47.8 dBm
HDTV BER: 0 0 0
Visual Impairment Comments: No trans. errors
Aural Impairment Comments: No trans. errors
HDTV Signal (amplified): -25.9 dBm Noise Power: -62.7 dBm S/N₁: 36.8 dB

BER with noise added to reach threshold: 6.23E-07 5.57E-07 1.03E-06
HDTV Signal (amplified): -25.9 dBm Noise Power: -55.3 dBm S/N₂: 29.4 dB

Margin S/N₁ - S/N₂ : 7.4 dB
6. Signal through House-in-a-Box: HDTV Received Power: -55 dBm
HDTV BER: 0 0 0
Visual Comments: No trans. errors
Aural Comments: No trans. errors
HDTV Signal (amplified): -30.8 dBm Noise Power: -64.3 dBm S/N₁: 33.5 dB

BER with noise added to reach threshold: 5.88E-07 3.55E-07 4.46E-07
HDTV Signal (amplified): -30.8 dBm Noise Power: -59.6 dBm
S/N₂: 28.8 dB

Margin S/N₁ - S/N₂ : 4.7 dB

APPENDIX 8**Time Warner Cable of Charlotte****General System Information**

Total Subscribers: 109,000	Miles of Plant: 1,441	Percent Underground: 35
System Bandwidth: 50 - 750 MHz	Frequency Plan: STD	Highest Freq. Used: 551 MHz
Test Channel: 62 (450 - 456 MHz)	Lower Channel: Clear	Upper Channel: Clear
Trunk Amp Mfr.: Sylvania Magnavox	AM Fibre	
Line Extender Mfr.: Sylvania Magnavox		
Trunk Cable: .750"	Cable Manufacturer: Times	Age: 1 - 30 years
Distribution Cable: .500"	Cable Manufacturer: Times	Age: 1 - 30 years
Cable Tap & Passives Mfr.: assorted		
Channel 53 HDTV Rx Level: -37 dBm (~ 31 dB of Margin)		
Rx Site: 7.0 miles from transmitter site		
Tests Performed by: G. Hovland - CableLabs, N. Coppisetti - Philips, and Rob Densler - Zenith		
Director: Brian James - CableLabs		

Test Point H1

Date: 95 Aug 28 Address of Location: Headend, Charlotte
 Tap Location: HE Test Point Trunk Cascade: 0 Line Extender Cascade: 0

Field Test Results

1. NTSC Direct: Received Signal Level: -47 dBm
 Impairment Rating: 4.50 Comments: -
 Direct Inband Response 0.4 dB P-V Delay: 190 ns

2. NTSC Through House-in-a-Box: Level: -54.7 dBm HIAB Loss: 7.7 dB
 Impairment Rating: 3.5 Comments: beat
 HIAB Inband Response 0.5 dB P-V Delay: 150 ns

3. NTSC Carrier levels (Direct):
 Lower Visual: -47.1 dBm Lower Aural: -61.7 dBm Ratio: 14.6 dB
 Test Visual: -47 dBm Test Aural: -62.6 dBm Ratio: 15.6 dB
 Upper Visual: -46.8 dBm Upper Aural: -62.1 dBm Ratio: 15.3 dB

4. NTSC Carrier Level: -14.3 dBm (after amplifier and filter)
 Highest Inband Spurious: >-50.19 dBm @ - MHz
 CTB Level: >-50.19 dBm
 Carrier-to-Noise: 41.6 dB (6 MHz bandwidth)
 Total System Response: 1 dB Peak-to-Valley Tilt across system: 2 dB

5. Direct Connection: HDTV Received Power: -53.4 dBm
 HDTV BER: 0 0 0
 Visual Impairment Comments: No trans. errors
 Aural Impairment Comments: No trans. errors
 HDTV Signal (amplified): -20.9 dBm Noise Power: -59.2 dBm S/N_1 : 38.3 dB

 BER with noise added to reach threshold: 1.00E-06 1.13E-06 7.88E-07
 HDTV Signal (amplified): -20.9 dBm Noise Power: -49.5 dBm S/N_2 : 28.6 dB

 Margin $S/N_1 - S/N_2$: 9.7 dB

6. Signal through House-in-a-Box: HDTV Received Power: -61.4 dBm
 HDTV BER: 0 0 0
 Visual Comments: No trans. errors
 Aural Comments: No trans. errors
 HDTV Signal (amplified): -28.3 dBm Noise Power: -59.5 dBm S/N_1 : 31.2 dB

 BER with noise added to reach threshold: 2.65E-06 2.37E-06 2.69E-06
 HDTV Signal (amplified): -28.3 dBm Noise Power: -56.9 dBm
 S/N_2 : 28.6 dB

 Margin $S/N_1 - S/N_2$: 2.6 dB

Test Point H2

Date: 95 Aug 28 Address of Location: 608 Mathews St. Extension, Mathews
 Tap Location: Fibre /Aerial Trunk Cascade: 1 Line Extender Cascade: 2

Field Test Results

1. NTSC Direct: Received Signal Level: -44.8 dBm
 Impairment Rating: 4.5 Comments: -
 Direct Inband Response: 0.4 dB P-V Delay: 150 ns
2. NTSC Through House-in-a-Box: Level: -52.8 dBm HIAB Loss: 8 dB
 Impairment Rating: 4 Comments: beat
 HIAB Inband Response: 0.8 dB P-V Delay: 150 ns
3. NTSC Carrier levels (Direct):
 Lower Visual: -44.3 dBm Lower Aural: -59.1 dBm Ratio: 14.8 dB
 Test Visual: -44.7 dBm Test Aural: -60 dBm Ratio: 15.3 dB
 Upper Visual: -44.4 dBm Upper Aural: -59.4 dBm Ratio: 15 dB
4. NTSC Carrier Level: -12.1 dBm (after amplifier and filter)
 Highest Inband Spurious: >-76.3 dBm @ - MHz
 CTB Level: -72.6 dBm
 Carrier-to-Noise: 45.2 dB (6 MHz bandwidth)
 Total System Response: 5 dB Peak-to-Valley Tilt across system: 0.5 dB
5. Direct Connection: HDTV Received Power: -51.1 dBm
 HDTV BER: 0 0 0
 Visual Impairment Comments: No trans. errors
 Aural Impairment Comments: No trans. errors
 HDTV Signal (amplified): -18.2 dBm Noise Power: -57.1 dBm S/N₁: 38.9 dB

 BER with noise added to reach threshold: 1.52E-06 1.41E-06 1.32E-06
 HDTV Signal (amplified): -18.2 dBm Noise Power: -47 dBm S/N₂: 28.8 dB

 Margin S/N₁ - S/N₂ : 10.1 dB
6. Signal through House-in-a-Box: HDTV Received Power: -58.9 dBm
 HDTV BER: 0 0 0
 Visual Comments: No trans. errors
 Aural Comments: No trans. errors
 HDTV Signal (amplified): -26.1 dBm Noise Power: -59 dBm S/N₁: 32.9 dB

 BER with noise added to reach threshold: 1.60E-06 1.31E-06 2.18E-06
 HDTV Signal (amplified): -26.1 dBm Noise Power: -54.7 dBm
 S/N₂: 28.6 dB

 Margin S/N₁ - S/N₂ : 4.3 dB

Test Point H3

Date: 95 Aug 28 Address of Location: 7217 Sheffingdale, Charlotte
 Tap Location: Fibre /Aerial Trunk Cascade: 2 Line Extender Cascade: 0

Field Test Results

1. NTSC Direct: Received Signal Level: -43.6 dBm
 Impairment Rating: 4.5 Comments: -
 Direct Inband Response: 0.5 dB P-V Delay: 840 ns

2. NTSC Through House-in-a-Box: Level: -51.5 dBm HIAB Loss: 7.9 dB
 Impairment Rating: 4 Comments: -
 HIAB Inband Response: 0.7 dB P-V Delay: 320 ns

3. NTSC Carrier levels (Direct):
 Lower Visual: -43.2 dBm Lower Aural: -58 dBm Ratio: 14.8 dB
 Test Visual: -43.4 dBm Test Aural: -58.8 dBm Ratio: 15.4 dB
 Upper Visual: -43.2 dBm Upper Aural: -58 dBm Ratio: 14.8 dB

4. NTSC Carrier Level: -10.9 dBm (after amplifier and filter)
 Highest Inband Spurious: -73.5 dBm @ 452.5 MHz
 CTB Level: -73.4 dBm
 Carrier-to-Noise: 44.9 dB (6 MHz bandwidth)
 Total System Response: 5 dB Peak-to-Valley Tilt across system: -5 dB

5. Direct Connection: HDTV Received Power: -50 dBm
 HDTV BER: 0 0 0
 Visual Impairment Comments: No trans. errors
 Aural Impairment Comments: No trans. errors
 HDTV Signal (amplified): -17.2 dBm Noise Power: -55.8 dBm S/N₁: 38.6 dB

 BER with noise added to reach threshold: 2.36E-06 2.10E-06 1.61E-06
 HDTV Signal (amplified): -17.2 dBm Noise Power: -46 dBm S/N₂: 28.8 dB

 Margin S/N₁ - S/N₂ : 9.8 dB

6. Signal through House-in-a-Box: HDTV Received Power: -58 dBm
 HDTV BER: 0 0 0
 Visual Comments: No trans. errors
 Aural Comments: No trans. errors
 HDTV Signal (amplified): -25 dBm Noise Power: -58.3 dBm S/N₁: 33.3 dB

 BER with noise added to reach threshold: 2.18E-06 2.01E-06 1.70E-06
 HDTV Signal (amplified): -25 dBm Noise Power: -53.6 dBm S/N₂: 28.6 dB

 Margin S/N₁ - S/N₂ : 4.7 dB

Test Point H4

Date: 95 Aug 28 Address of Location: 1630 Meyers Park Dr., Charlotte
 Tap Location: Fibre/Buried Trunk Cascade: 0 Line Extender Cascade: 3

Field Test Results

1. NTSC Direct: Received Signal Level: -43.6 dBm
 Impairment Rating: 3 Comments: beat
 Direct Inband Response: 1.5 dB P-V Delay: 250 ns
2. NTSC Through House-in-a-Box: Level: -51.5 dBm HIAB Loss: 7.9 dB
 Impairment Rating: 3 Comments: beat
 HIAB Inband Response: 1.2 dB P-V Delay: 230 ns
3. NTSC Carrier levels (Direct):
 Lower Visual: -43.5 dBm Lower Aural: -56.7 dBm Ratio: 13.2 dB
 Test Visual: -43.5 dBm Test Aural: -59.9 dBm Ratio: 16.4 dB
 Upper Visual: -43.7 dBm Upper Aural: -58 dBm Ratio: 14.3 dB
4. NTSC Carrier Level: -10.9 dBm (after amplifier and filter)
 Highest Inband Spurious: -64.3 dBm @ 452.5 MHz
 CTB Level: -72.9 dBm
 Carrier-to-Noise: 43.9 dB (6 MHz bandwidth)
 Total System Response: 3 dB Peak-to-Valley Tilt across system: 15 dB
5. Direct Connection: HDTV Received Power: -49.6 dBm
 HDTV BER: 0 0 0
 Visual Impairment Comments: No trans. errors
 Aural Impairment Comments: No trans. errors
 HDTV Signal (amplified): -16.6 dBm Noise Power: -54.6 dBm S/N₁: 38 dB

 BER with noise added to reach threshold: 2.26E-06 1.94E-06 1.21E-06
 HDTV Signal (amplified): -16.6 dBm Noise Power: -46 dBm S/N₂: 29.4 dB

 Margin S/N₁ - S/N₂ : 8.6 dB
6. Signal through House-in-a-Box: HDTV Received Power: -58 dBm
 HDTV BER: 0 0 0
 Visual Comments: No trans. errors
 Aural Comments: No trans. errors
 HDTV Signal (amplified): -24.8 dBm Noise Power: -57.9 dBm S/N₁: 33.1 dB

 BER with noise added to reach threshold: 2.15E-06 2.47E-06 2.32E-06
 HDTV Signal (amplified): -24.8 dBm Noise Power: -54.3 dBm
 S/N₂: 29.5 dB

 Margin S/N₁ - S/N₂ : 3.6 dB

Test Point H5

Date: 95 Aug 28
Tap Location: Fibre

Address of Location: 3114 Cambridge Rd., Charlotte
Trunk Cascade: 0 Line Extender Cascade: 3

Field Test Results

1. NTSC Direct: Received Signal Level: -38.2 dBm
Impairment Rating: 4 Comments: light noise
Direct Inband Response: 0.4 dB P-V Delay: 160 ns
2. NTSC Through House-in-a-Box: Level: -46.2 dBm HIAB Loss: 8 dB
Impairment Rating: 4 Comments: light noise
HIAB Inband Response: 1 dB P-V Delay: 200 ns
3. NTSC Carrier levels (Direct):
Lower Visual: -39.5 dBm Lower Aural: -53.5 dBm Ratio: 14 dB
Test Visual: -38.1 dBm Test Aural: -53.6 dBm Ratio: 15.5 dB
Upper Visual: -38.4 dBm Upper Aural: -53.2 dBm Ratio: 14.8 dB
4. NTSC Carrier Level: -5.5 dBm (after amplifier and filter)
Highest Inband Spurious: -67 dBm @ 452.5 MHz
CTB Level: -70.5 dBm
Carrier-to-Noise: 45.5 dB (6 MHz bandwidth)
Total System Response: 3 dB Peak-to-Valley Tilt across system: 1 dB
5. Direct Connection: HDTV Received Power: -44.4 dBm
HDTV BER: 0 0 0
Visual Impairment Comments: No trans. errors
Aural Impairment Comments: No trans. errors
HDTV Signal (amplified): -17 dBm Noise Power: -58.6 dBm S/N₁: 41.6 dB

BER with noise added to reach threshold: 1.50E-06 1.49E-06 2.30E-06
HDTV Signal (amplified): -17 dBm Noise Power: -45.5 dBm S/N₂: 28.5 dB

Margin S/N₁ - S/N₂ : 13.1 dB
6. Signal through House-in-a-Box: HDTV Received Power: -52.4 dBm
HDTV BER: 0 0 0
Visual Comments: No trans. errors
Aural Comments: No trans. errors
HDTV Signal (amplified): -25.1 dBm Noise Power: -63.2 dBm S/N₁: 38.1 dB

BER with noise added to reach threshold: 2.62E-06 1.55E-06 2.08E-06
HDTV Signal (amplified): -25.1 dBm Noise Power: -54.1 dBm
S/N₂: 29 dB

Margin S/N₁ - S/N₂ : 9.1 dB

Test Point H6

Date: 95 Aug 29
Tap Location: Fibre

Address of Location: 327 E. Peterson St., Charlotte
Trunk Cascade: 1 Line Extender Cascade: 3

Field Test Results

1. NTSC Direct: Received Signal Level: -38.8 dBm
Impairment Rating: 4 Comments: beat
Direct Inband Response: 0.9 dB P-V Delay: 200 ns
2. NTSC Through House-in-a-Box: Level: -46.7 dBm HIAB Loss: 7.9 dB
Impairment Rating: 4 Comments: beat
HIAB Inband Response: 1.5 dB P-V Delay: 150 ns
3. NTSC Carrier levels (Direct):
Lower Visual: -39.8 dBm Lower Aural: -54 dBm Ratio: 14.2 dB
Test Visual: -38.9 dBm Test Aural: -54.2 dBm Ratio: 15.3 dB
Upper Visual: -38.6 dBm Upper Aural: -53.9 dBm Ratio: 15.3 dB
4. NTSC Carrier Level: -6 dBm (after amplifier and filter)
Highest Inband Spurious: -64.5 dBm @ 452.6 MHz
CTB Level: -65.6 dBm
Carrier-to-Noise: 42.9 dB (6 MHz bandwidth)
Total System Response: 5 dB Peak-to-Valley Tilt across system: 0 dB
5. Direct Connection: HDTV Received Power: -45.3 dBm
HDTV BER: 0 0 0
Visual Impairment Comments: No trans. errors
Aural Impairment Comments: No trans. errors
HDTV Signal (amplified): -14.7 dBm Noise Power: -48.8 dBm S/N₁: 34.1 dB

BER with noise added to reach threshold: 2.18E-06 1.69E-06 1.25E-06
HDTV Signal (amplified): -14.7 dBm Noise Power: -42.6 dBm S/N₂: 27.9 dB

Margin S/N₁ - S/N₂ : 6.2 dB
6. Signal through House-in-a-Box: HDTV Received Power: -53.2 dBm
HDTV BER: 0 0 0
Visual Comments: No trans. errors
Aural Comments: No trans. errors
HDTV Signal (amplified): -22.5 dBm Noise Power: -56.4 dBm S/N₁: 33.9 dB

BER with noise added to reach threshold: 2.08E-06 2.47E-06 1.93E-06
HDTV Signal (amplified): -22.5 dBm Noise Power: -50.9 dBm
S/N₂: 28.4 dB

Margin S/N₁ - S/N₂ : 5.5 dB